

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for transmitting encoded data between synchronized sending and receiving digital systems across a lossy transmission media, said sending and receiving digital systems maintaining respective encoder and decoder information records, said method comprising the steps of:

encoding packet data to be transmitted by said sending digital system using encoding information in an encoder information record that has been previously acknowledged by said receiving digital system;

building a new encoder information record including the encoding information used to encode said packet data as well as the packet data;

transmitting the encoded packet data to said receiving digital system as a packet including a header having a packet number and a tag identifying the encoding information used to encode the packet data;

when the packet is received by said receiving digital system, examining the header to determine the encoding information used to encode said packet data;

decoding the packet using corresponding decoder information in said decoder information record and updating the decoder information in said decoder information record with said packet data;

acknowledging processing of the packet to said sending digital system to enable said sending digital system to update said encoder information so that said new encoder information record is used to encode future packet data to be transmitted; and

when the packet is lost, ~~conditioning said encoder information to rebuild at the sending digital system rebuilding~~ the new encoder information record without the lost packet data.

2. (Currently Amended) The method of claim 1 wherein said ~~conditioning rebuilding~~ step is performed when a packet is received out of sequence by said receiving digital system and a predetermined threshold amount of time elapses without the missing packet being received.

3. (Currently Amended) The method of claim 2 wherein packets received out of sequence are stored in a queue and wherein a packet timer is initiated by said receiving digital system to count

said predetermined threshold amount of time when a packet is received out of sequence, said packet timer being stopped when said missing packet is received.

4. (Currently Amended) The method of claim 3 wherein said conditioning rebuilding step includes the step of sending a synch control packet from said receiving digital systems to said sending digital system, said synch control packet including a tag identifying the last processed packet processed by said receiving digital system, said sending digital system using said synch control packet to rebuild said new encoder information record.
5. (Currently Amended) The method of claim 4 wherein said conditioning rebuilding step further includes the steps of initiating a synchronization timer at said receiving digital system when said synch control packet is sent; stopping said timer when an acknowledgment is received from said sending digital system in response to said synch control packet; and resending the synch control packet and reinitiating the synchronization timer if said synchronization timer expires and an acknowledgment has not been received.
6. (Currently Amended) The method of claim 5 wherein said conditioning rebuilding step further includes the steps of incrementing a counter each time a synch control packet is sent; comparing the value of said counter to determine if the value equals a threshold prior to resending the synch control packet and reinitiating the synchronization timer; and resetting the communication link between said sending and receiving digital systems if the value of said counter equals said threshold value.
7. (Original) The method of claim 1 wherein during said acknowledging step, an acknowledgment packet is returned to said sending digital system, said acknowledgment packet including identifying the last packet processed by said receiving digital system.
8. (Original) The method of claim 1 wherein during said acknowledging step, an acknowledgment header encapsulating data packets is returned to said sending digital system, said acknowledgment header identifying the last packet processed by said receiving digital system.

9. (Currently Amended) The method of claim 1 further comprising the steps of, prior to decoding said packets by said receiving digital system, examining said packets to detect corrupted packets and discarding corrupted packets.

10. (Original) The method of claim 9 wherein during said examining step a cyclic redundancy check is performed on said packets.

11. (Currently Amended) The method of claim 10 further comprising the step of discarding received packets having packet numbers outside of a defined range of the packet numbers of the expected packets.

12. (New) The method of claim 6 further comprising the steps of, prior to decoding said packets by said receiving digital system, examining said packets to detect corrupted packets and discarding corrupted packets.

13. (New) The method of claim 12 wherein during said examining step a cyclic redundancy check is performed on said packets.

14. (New) The method of claim 13 further comprising the step of discarding received packets having packet numbers outside of a defined range of expected packet numbers.

15. (New) The method of claim 1 wherein during encoding, the packet data is compressed, encrypted and/or scrambled.

16. (New) The method of claim 9 wherein during encoding, the packet data is compressed, encrypted and/or scrambled.

17. (New) A communication system including synchronized sending and receiving digital systems transmitting encoded data across a lossy transmission medium, said sending and receiving digital systems maintaining respective encoder and decoder information records, said communication system comprising:

at the sending digital system, an encoder for encoding packet data to be transmitted using encoding information in an encoder information record that has been previously acknowledged by said receiving digital system;

an encoder information record construct for building a new encoder information record including the encoding information used to encode said packet data as well as the packet data; and

a transmitter for transmitting the encoded packet data to the receiving digital system as a packet including a header having a packet number and a tag identifying the encoding information used to encode the packet data; and

at the receiving digital system, a header destruct for examining the header to determine the encoding information used to encode said packet data;

a decoder for decoding the packet using corresponding decoder information in said decoder information record and updating the decoder information in the decoder information record with the packet data; and

an acknowledger for acknowledging processing of the packet to the sending digital system to enable the sending digital system to update the encoder information so that the new encoder information record is used to encode packet data, wherein when a packet is lost, said encoder information record construct is conditioned to rebuild the new encoder information record without the lost packet data.

18. (New) A communication system according to claim 17 wherein said encoder information construct is conditioned to rebuild the new encoder information record when a packet is received by said receiving digital system out of sequence and a threshold amount of time elapses without the missing packet being received by the receiving digital system.

19. (New) A communication system according to claim 18 wherein said receiving digital system stores packets received out of sequence in a queue and initiates a packet timer to count said threshold amount of time when a packet is received out of sequence, said packet timer being stopped when said missing packet is received.

20. (New) A communication system according to claim 19 wherein said receiving digital system sends a synch control packet to said sending digital system when a packet is lost, said encoder information record construct being responsive to said synch control packet to rebuild the new encoder information record, said synch control packet including a tag identifying the last packet processed by said receiving digital system.